



## Science: Curriculum Overview

### Year 7

*NB: Each class will study each of the sciences across the year but in a different order.*

Half Term	Topic studied	What will I learn?	How will I be assessed?
Physics: one Term	Energy	Energy types and energy transfer; Sankey diagrams - useful output compared to input.	End of topic Tests
	Energy Resources	Generation of electricity - Conventional and Alternative; Energy from the sun, Fossil Fuels - types & formation; Non-Renewable NOT being replaced by natural means; Coal, oil and gas from millions of years ago; Renewable IS replaced by natural means eg Sun for Solar, wind, wave, HEP, biofuel. Tidal – Moon. Geothermal – nuclear in Earth; Problems with conventional generation; Transport for the future.	
	Electric circuits	Basic electric circuits; Series and parallel; Current and voltage; Ammeters, voltmeters and resistance	
	Magnets Electromagnets	Investigate properties of magnets, then electromagnets	
	Forces	Types of forces and their actions; Weight; Friction; Force arrows; Balanced and unbalanced; Speed; $S=D/T$ equation; Speed using various techniques, ticker-timers, ICT, light gates	
Chemistry: one term	Changing state (6 lessons)	How to safely use a Bunsen Burner; Particles; The three states of matter; Dissolving, melting, boiling, condensing, freezing and evaporating; Use particle theory to explain diffusion and the gas pressure.	End of topic tests
	Solutions (10 lessons)	Dissolving as a physical change; Solvent, solute, solution, soluble, insoluble and saturated with respect to solutions; Temperature and solubility; Solubility and solvents; Distillation, chromatography and pure substances; Filtration	
	Acids and alkalis (8 lessons)	Acids; Using indicators to identify acidic, alkaline and neutral solutions; Bases, acids and alkalis; Using indicators to identify different strengths of acidic, alkaline and neutral solutions; The pH scale; Neutralisation and its uses	
	Simple chemical reactions (7 lessons)	Burning as a chemical reaction; Fires need fuel, oxygen and heat to burn. Also covers aspects of fire safety; Word equations; Combustion; Hydrocarbons; Carbon dioxide, a gas which turns limewater cloudy; What makes a good fuel and the environmental effects of burning; Compounds	
Biology: one term	Cells	How to use a microscope Animal and Plant cells Specialist cells Unicellular organisms	Homework  Microscope and cells test
	Body Systems	Body organisation Body systems Skeleton Muscles and joints	Body systems test